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TITLE : HEAT TREATMENT OF SPHEROIDAL GRAPHITE CAST IRON

ABSTRACT : PURPOSE: To permit easy working of cast iron parts and to provide high strength and high wear resistance to a spheroidal graphite cast iron by adjusting the compsn. of said cast iron and combining ingeniously an austemper treating stage, machining stage and post heat-treating stage.

CONSTITUTION: An alloy spheroidal graphite cast iron is composed by incorporating, by wt%, 0.1~1 Mo, 0.2~1.5 Ni and 0.1~1.5 Cu to a basic component consisting of 3~4.5 C, 1.5~3 Si, 0.2~1 Mn, 0.02~0.1 Mg and the balance Fe. Such cast iron is subjected to immersion in a salt bath kept at 210~430°C and holding at a constant temp. right after an austenitization treatment for 0.5~3hr at 850~900°C, by which the cast iron is austempered until the amt. of the residual austenite structure in the base structure attains 20~60% by volume. After the cast iron is finished by machining, the cast iron is subjected to a post heat treatment for 0.5~3hr at 350~600°C to convert part or the whole of the residual austenite structure to a martensite structure.

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